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NEWSLETTER OF THE LONDON CHAPTER,
ONTARIO ARCHAEOLOGICAL SOCIETY
c/o Museum of Ontario Archaeology
1600 Attawandaron Road, London, ON N6G 3M6

LONDON CHAPTER OAS

November & December 2011 11-7 & 8

The next meeting of the London Chapter will be held on Thursday, September 13, 2012. The speaker will be Josh Dent, a PhD student in Anthropology at Western who will discuss aspects of his recent MA thesis research in a paper entitled: **Regulatory Strata: The Progression of Provincial Archaeological Governance in Ontario.** As usual, doors open by 7:30 PM and the meeting begins at 8 PM at the Museum of Ontario Archaeology.

Speaker's Night is held the 2nd Thursday of each month (January to April and September to December) at the Museum of Ontario Archaeology, 1600 Attawandaron Road, near the corner of Wonderland & Fanshawe Park Road, in the northwest part of the city. The meeting starts at 8:00 pm.

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THE ARCHAEOLOGY OF THE THOMAS JENNINGS BURIAL

By James T. Sherratt

INTRODUCTION

The investigation of the burial discovered on the Strachan property was completed by the author for the Ministry of Culture (now Tourism, Culture and Sport) and the Registrar of Cemeteries. The following article describes the archaeological assessment, mitigation and reburial of the Thomas Jennings burial.

DISCOVERY

The burial was discovered on June 1, 2008 by Mr. George Strachan in an exposed surface from excavations conducted approximately two weeks prior (Figure 1). Upon discovery, the cranium was removed from the exposed profile by Mr. Strachan's daughter.

Subsequently, the police were informed of the discovery and Dr. Michael Spence examined the remains and the area surrounding the grave. The remains were confirmed as human. The orientation of the burial and the presence of the remains of a coffin suggested to Dr. Spence that the burial was 19th century in origin (see Spence: this Kewa issue).

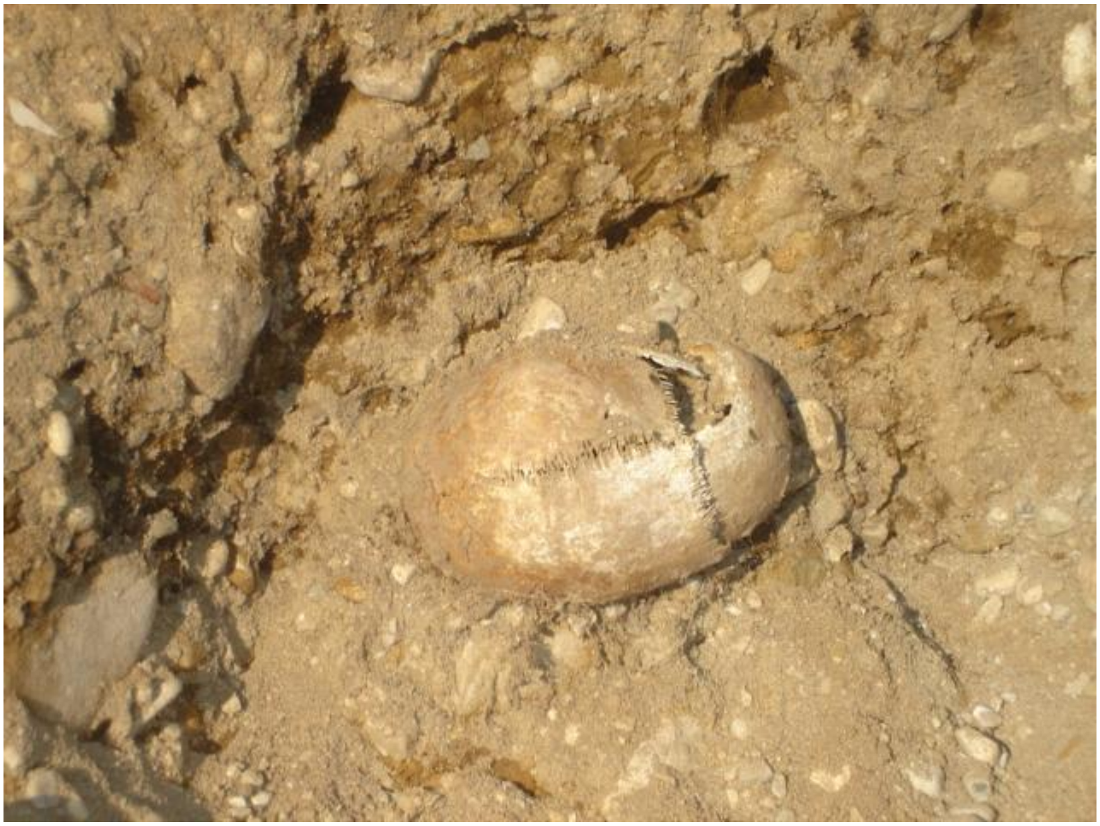

Figure 1: Close up view of the burial at the time of discovery.

LOCATION AND DESCRIPTION

The Strachan property is located in the southeastern corner of Lot 9, Concession A, Geographic Township of Minto, Wellington County, Ontario (Figure 2). Generally, the property is located in the Guelph Drumlin Field (Chapman and Putnam 1984: 154). Soils are Burford Loam consisting of loam over gravel deposits (Hoffman et al. 1963: 43). It is also located southwest of a tributary of the Saugeen river.

Specifically, the burial was located on a knoll approximately 9.50 metres west of an existing hedge row of cedar trees that divide the Strachan property from the Right-Of-Way to the east owned by Wellington County. It was located 5.5 metres south of the fence that marks the northern limits of the Strachan property. To the north, the property is fallow field/pasture. To the east are pine trees that form a hedge row and cedar tree bordering Wellington County Road 6.

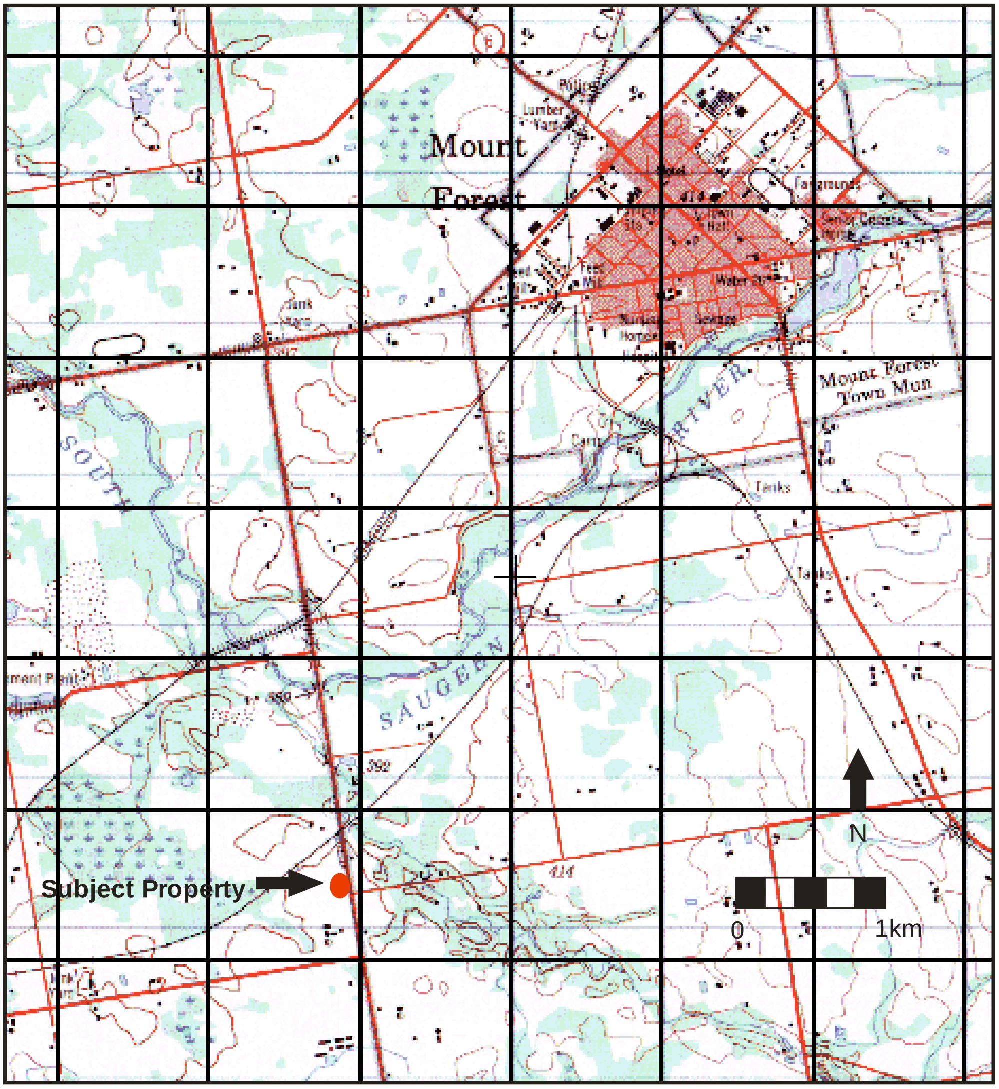

Figure 2: Location of the 9410 Wellington County Road 6.

BACKGROUND RESEARCH

The background research consisted of a thorough review of the available historical records for Lot 9, Concession A. A search of the Abstract of Deeds was conducted followed by a review of the personal census data in 1851, 1861 and 1871. Other sources consulted include the Historical Atlas for Wellington County and the history of Minto Township (Harrison 1978). Mrs Strachan also conducted research at the Wellington County Archives. The background research conducted by Mrs. Strachan and supplemented by the author resulted in the identification of one candidate being found: Thomas Jennings.

As noted earlier, the Strachan property is located in the southeast corner of Lot 9, Concession A, Minto Township. Lot 9 was sold to Francis Jennings at the land sale in Elora, September 10 and 11, 1854. The Abstract of Deeds lists the original patent being issued to Arthur Jennings in September of 1861.

The 1851 Canada Census lists a Francis Jennings (age 52) as living in Minto Township. The Jennings family consists of Francis, his wife Mary (age 44) and four children, John (age 12), Alfred (age 9), Thomas (age 5) and Bess (age 4). The Census records that the Jennings family was living in a one storey shanty. Francis is listed as a farmer and the Jennings family is listed as belonging to the Church of England. Francis, Mary and John are listed as having been born in England. Alfred, Thomas and Bess are listed as having been born in Canada. This difference in age and place of birth between John and Alfred would suggest that the Jennings family emigrated to Canada between 1839 and 1842.

In 1852 the lot lines in the Township were redrawn. The reason for the change was the presence of squatters in the northeast corner of the township. A new concession, A, was surveyed as to not interfere with the lots already established in this portion of the township by the squatters. The plan of survey indicates that squatters were present from what is now Lot 1 to 10, Concession A. It is possible that one of the squatters was the Jennings family.

The 1861 Canada Census lists Francis, Mary and two children (John and Elizabeth). There is no listing for a Thomas Jennings. Francis is listed as a yeoman farmer and John is listed as a labourer. It lists the Jennings family as living in a one storey log cabin. The agricultural portion of the 1861 census indicates that only a small portion of the 125 acres (19.5) had been improved and under crop. The crops included wheat (6 acres, 72 bushels), peas (3 acres, 45 bushels), oats (1 acre, 20 bushels), potatoes (0.5 acres, 30 bushels) and turnip (2 acres, 400 bushels). In addition, 4 tonnes of hay, 7 pounds of wool, 100 pounds of maple sap, 100 pounds of butter and 300 barrels of 200 pounds of pork were produced. The livestock consisted of two oxen or bulls, seven steers or heifers, two milch cows, seven sheep and one pig.

The limited development of the lot by 1861 could explain why the crown patent was not issued until that time. Interestingly, the patent was not issued to Francis Jennings, but to Arthur Jennings. In the 1851 census, Arthur Jennings is listed as 17 years old and working as shoemaker in Mount Forest. Also listed in Mount Forest is Mary Jennings, age 19 years. Arthur and Mary are possible children of Francis Jennings.

In 1861 the lot was mortgaged by Arthur Jennings to a William Ritchie for the sum of $600. In 1866 the lot was sold by William Ritchie to William Brown. In 1872 the G&B Railroad Company purchase an portion of the property and in 1876 William Brown and his wife sold the lot to James Post. The 1871 Canada Census records for Minto Township do not include Francis or Mary Jennings.

Clifford Harrison, in his township history "the way it was: A History of Minto Township," records the following account of the Jennings family:

> *In 1854 the Francis Jennings family settled on Lot 9, the next farm north of the Lyon's place. Twenty years later they had moved from the township and left behind a living monument – a maple tree planted over the grave of their small son [Thomas] who died of black diphtheria. Old neighbours say the tree is still there. In fact a lone maple still grows close to the roadside on that farm; it may indeed be the Jennings' marker (1978:85).*

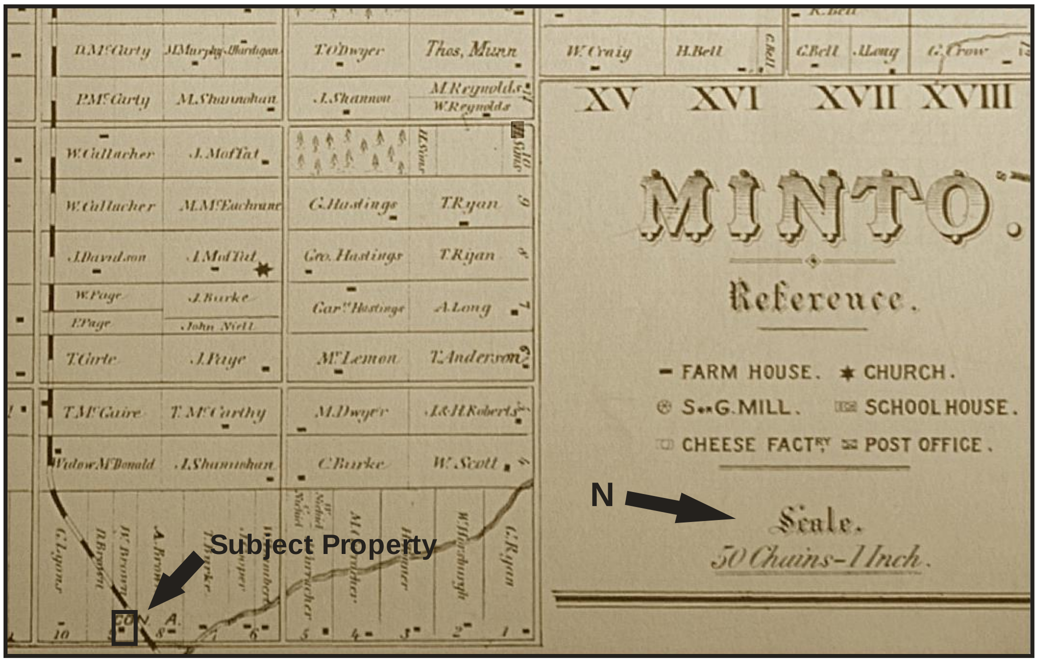

Figure 3: Facsimile of segment of the 1877 Historical Atlas map of Minto township showing Lot 9, Concession A.

A second account of tragedy was also recorded for the Jennings family. In the 1920s, a local writer canvassed the County for stories which were published in the Guelph Mercury. An informant provided the following account:

> *In last week's issue of the Mercury an error occurred by which an unaccountable mixing of the Jennings and Brown families appeared. The paragraphs should have read as follows:*
>
> *Francis Jennings, a native of Devonshire, Eng., the first school teacher at*

> *Kenilworth, Arthur Township, was the pioneer on lot 9, con. A.*
>
> *His family were: Alfred, John, Mrs. Challoner, and Mrs. Redick. Another son, Arthur, was lost in the woods when eleven years of age. Despite all the efforts of the neighbours, no trace of him was ever obtained. The general opinion was that he had been kidnapped by Indians, whose encampment was then in the vicinity. This is now the property of John McTaggart and Mrs. J.C. Post.*

Given the two accounts, it was necessary to consider both in developing inferences regarding who was buried in the grave. The account provided in the township history was provided by Richard Chaloner, the grandson of Mrs. Challoner nearly 100 years after. The latter account was provided by local residents 50 years after Francis and Mary Jennings family left the township and moved to Middlesex County. However, this account also names the lost child as Arthur. The census records and Abstract of Deeds would appear to contradict this account. Several of the children remained in Minto Township and married into local families such as the Chaloners, but it is not clear who provided the account of the Jennings family published in the Guelph Mercury in the 1920s.

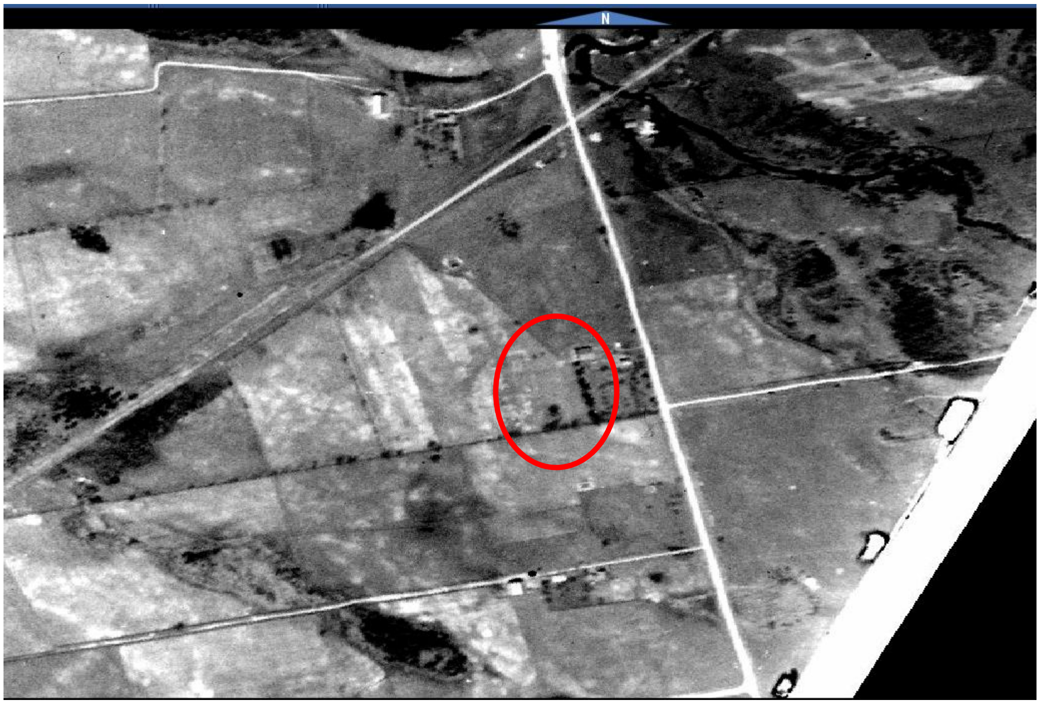

Figure 4: Aerial imagery of Lot 9, Concession A, Minto township (May , 1930: Roll A2150, Photo 104).

Based on the above, the development of Lot 9, Concession A progressed slowly from the 1850s to the 1870s. It was during this time that the Jennings family occupied the lot and a child was buried there. By 1877, the lot is shown as being owned by W. Brown and a single structure is depicted on the Wellington County historical atlas map for the Township of Minto in the (Walker & Miles Co. 1877; see Figure 3). Aerial imagery from the 1930s (Figure 4) and the soils maps for Wellington County (Hoffman et al. 1966) show two structures on the property. Mr. Strachan recalled the barn on the property and described burying the remains of the barn near the location of their retirement home. There was no record of a cemetery or burial within the property.

INITIAL ASSESSMENT

The initial assessment was conducted to determine the extent of the impacts to the burial and to provide enough information to inform recommendations regarding the need for further assessment. As such, the site was photo-documented and a profile drawn of the exposed portion of the exposed eastern profile.

A visual examination was conducted of the area surrounding the burial and notes made regarding the level of disturbance to the area surrounding the burial. Mr. and Mrs. Strachan were interviewed as well as Mr. Richard Chaloner. Mrs. Strachan also provided copies of the information she had collected from the Wellington County Archives in Elora.

The initial assessment determined that the majority of the burial was intact beneath a pile of soil that had been deposited in the corner of the residential lot during the excavations that had taken place in May, 2008. In addition, the initial assessment determined that there was a potential for additional burials to the north and east of the burial.

The area to the south and west had been intensively and extensively impacted by the removal of soils to reduce the grade by more than a metre. The soils from the surrounding area had been deposited in the Wellington County Right-Of-Way to the southeast of the site to create a driveway into the residential lot.

STAGE 3 ARCHAEOLOGICAL ASSESSMENT

The Stage 3 Assessment consisted of the mechanical removal of the topsoil from the remaining corner of the residential lot to the north and east of the burial discovered in June (Figure 5). The topsoil was removed by an excavator equipped with a smooth edged bucket. The removal of the topsoil was conducted on November 5, 2008 under the supervision of a licensed archaeologist. Following the removal of the topsoil, the area was “shovel shined” to look for any additional cultural features or burials.

In consultation with Michael D’Mello of the Cemeteries Branch, Ministry of Consumer Services, the topsoil was removed from the area to the north of the burial up to the base of the pine trees along the northern property line. The topsoil was also removed from the area to the east of the burial towards the Wellington County ROW. No additional burials were observed in the area investigated.

In consequence, it was determined that only one burial was present (Figure 56). Based on the initial observations by Dr. Spence, the burial is that of a child. During the Stage 3 assessment, a single coffin nail was observed in the exposed east profile. The nail was situated on the north side of the burial at the base of the burial feature.

STAGE 4 MITIGATION

Following the completion of the Stage 3 assessment, a declaration was published by the Registrar of Cemeteries. As part of her research, Mrs. Strachan had found the account in the history of Minto Township. The account credited the story of the burial on the property to Mr. Richard Chaloner of Guelph. Shortly after the discovery, Mrs. Strachan had found that Mr. Chaloner, the Jennings descendant noted above, still lived in Guelph and he participated in the decision making about the burial

A single burial feature was excavated by the project archaeologist with the assistance of Mr and Mrs. Strachan. The burial was manually excavated using a shovel and trowel. All soils were screened through 3 mm mesh screen in order to recover small bone fragments and artifacts. This Stage 4 mitigation was conducted on May 26, 2009.

The excavation confirmed that the burial was of a single individual in a wooden coffin. six nails were recovered. No evidence of coffin hardware was observed. No personal items or evidence of clothing or a shroud was found. The burial was oriented 320 degrees west-northwest and was in an extended position (Figures 5 and 6).

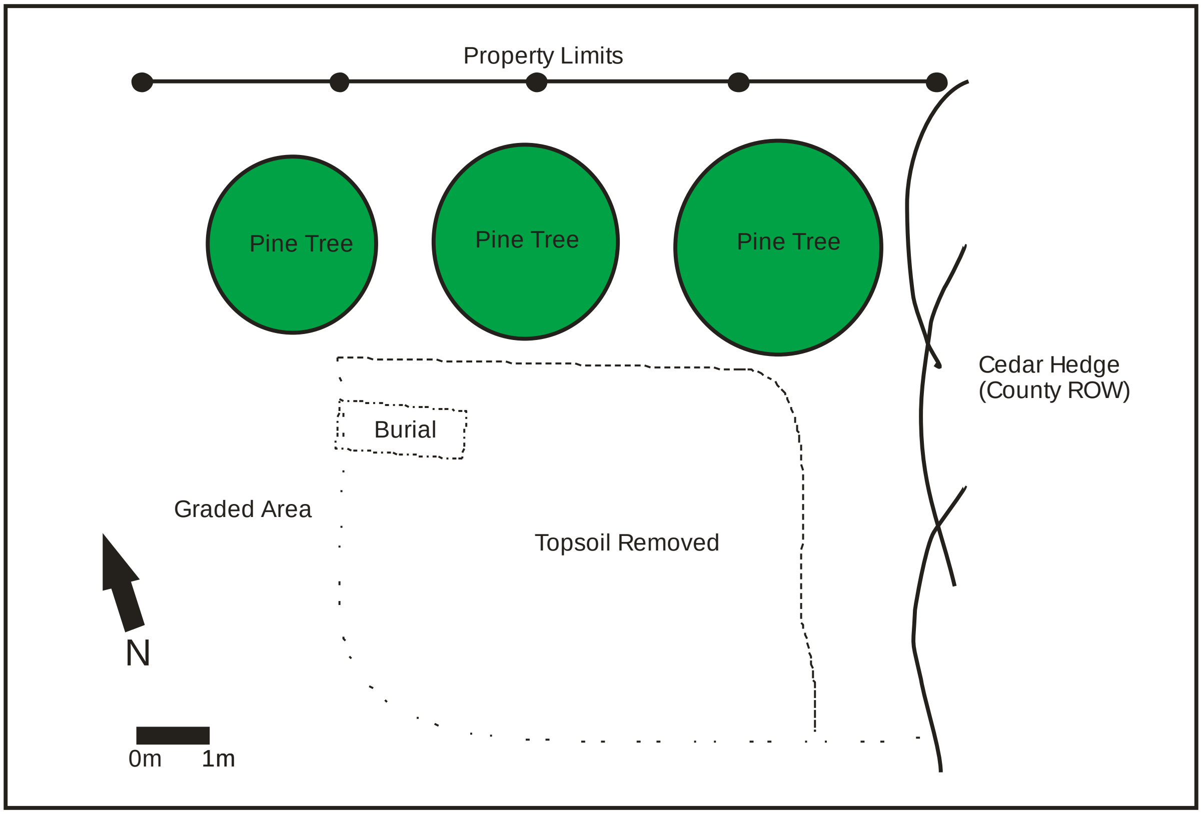

Figure 5: Plan of the burial location.

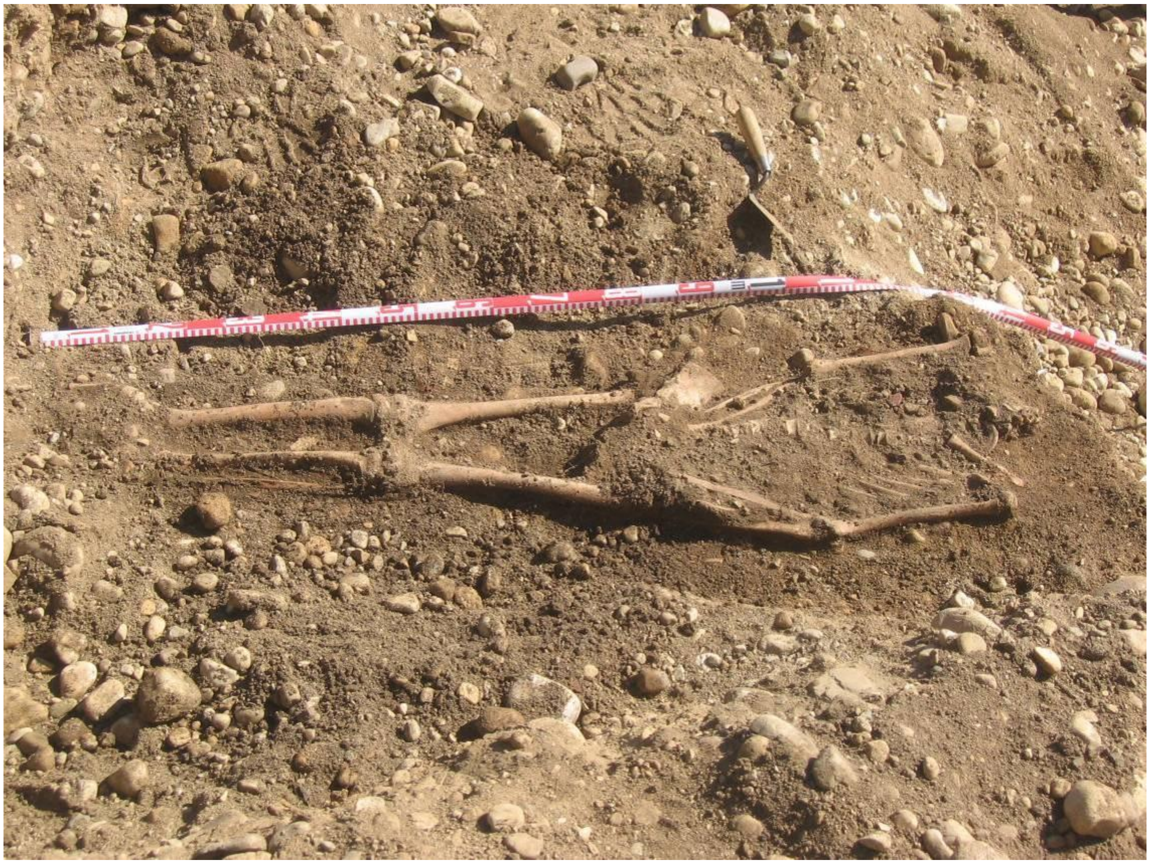

Figure 6: Close up view south of the burial excavation in progress.

REBURIAL

Based on cemetery records, it was determined that Francis and Mary Jennings had been interred in Mount Forest Cemetery. Although the markers were no longer present, the location was mapped. Based on this information, arrangements were made by Mrs. Strachan to have the remains of Thomas Jennings reburied in the plot where his parents had been buried.

On September 15, 2009, Thomas Jennings was re-buried in the Mount Forest Cemetery. The re-interment was attended by Mr. and Mrs. Strachan, Richard Chaloner and the author (Figure 7). Mr. Strachan had prepared a small box of plywood for the remains and had engraved “Thomas Jennings, 1846 to 1860” (Figure 8).

CONCLUSIONS

The Stage 3 archaeological assessment determined that the site consists of a single burial. The burial is that of a child, who, based upon the research of Michael Spence (this issue) was aged 10-12 years old, and who died in the 19th century and is associated with the Euro-Canadian occupation of the lot.

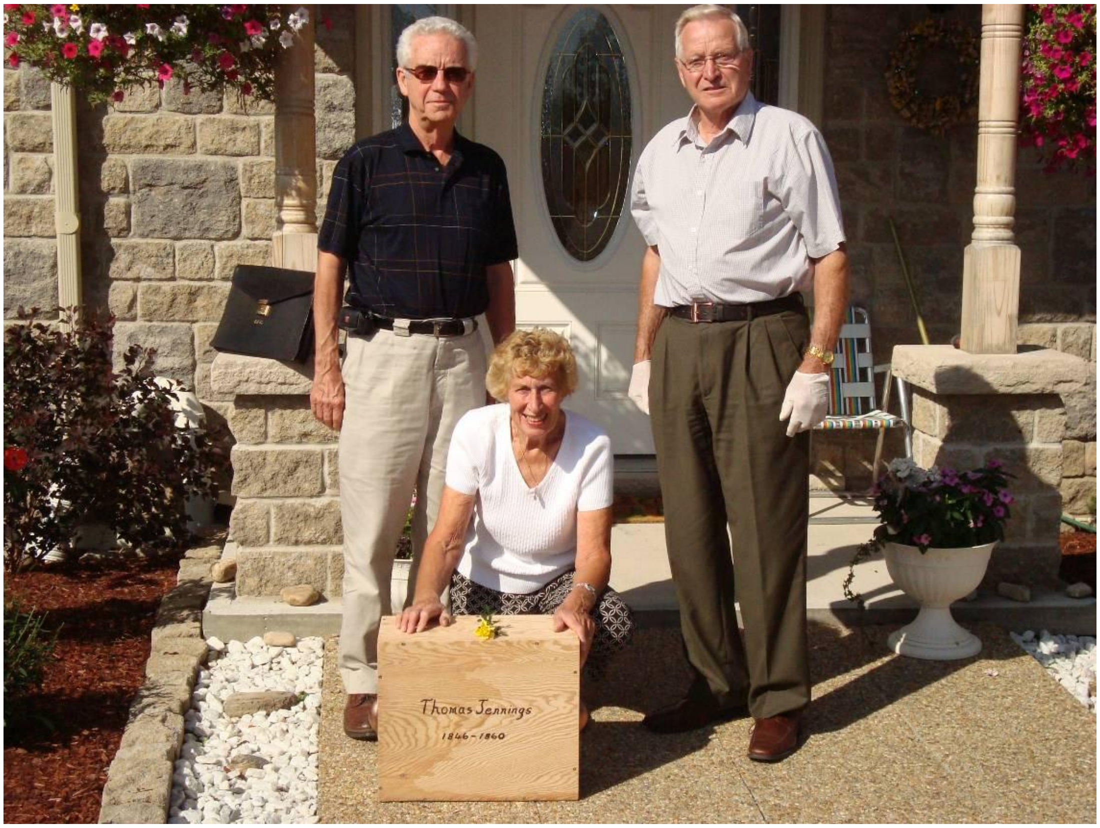

Figure 7: Richard Chaloner (left), Agnes Strachan and George Strachan (right)

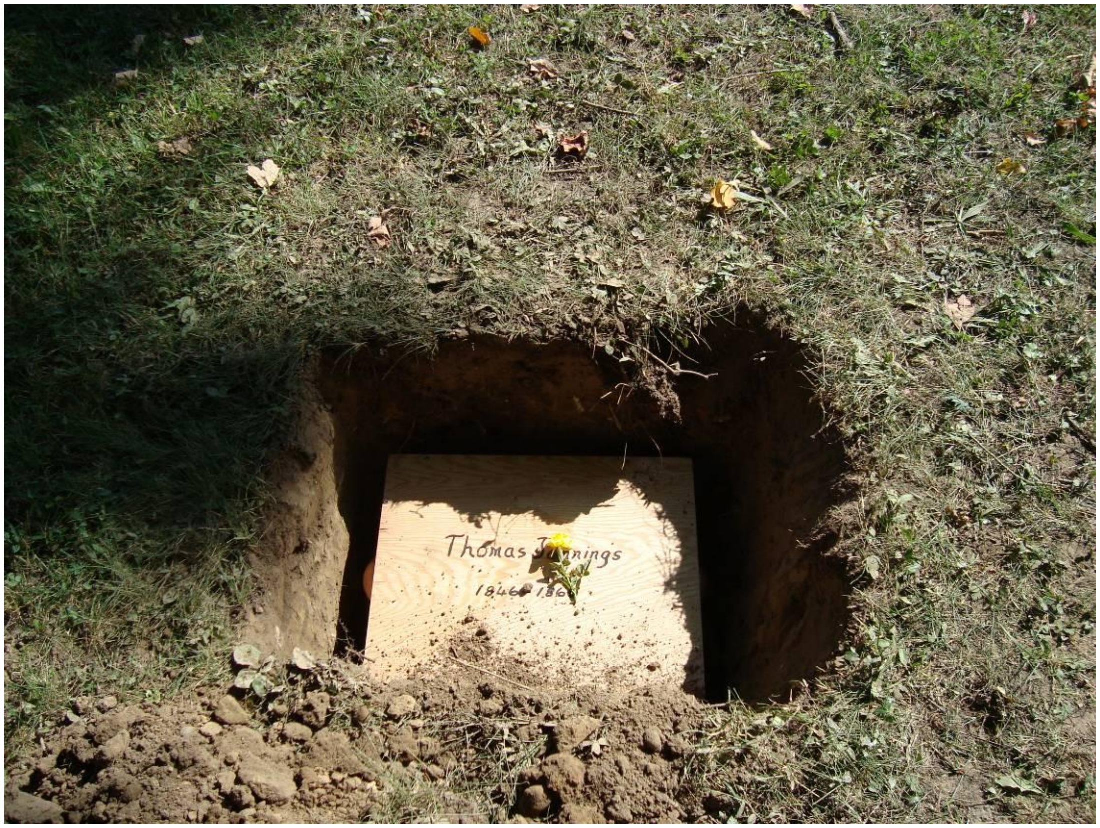

Figure 8: Close up of re-interment of the remains in Mount Forest Cemetery

Based on the background research it is inferred that the burial is that of Thomas Jennings. Thomas Jennings, the son of Francis and Mary Jennings, died of diphtheria. The family history records that Thomas was buried on Lot 9, Concession A. A comparison of the available historical data and the initial results of the analysis conducted by Dr. Michael Spence are consistent with this inference.

ACKNOWLEDGEMENTS

The author wishes to thank all who participated in the investigations and excavation of the burial of Thomas Jennings. Thanks to Mr. Merv Cowan from E. Dennison Contracting who operated the excavator and to Constable Sharon Fisher for facilitating the return of the remains from Mount Forest OPP station and providing a copy of the police report. Thank you to Dr. Michael Spence for volunteering his time and expertise to the analysis, Mr. Neil Downs, manager of the Culture Programs Unit, Ministry of Culture for allowing me to complete the investigation and Michael D’Mello Registrar of Cemeteries, Ministry of Consumer Services. Finally, I am indebted to Mr. and Mrs. Strachan for their hospitality during the investigation and to Mr. Richard Chaloner for providing information on the Jennings family.

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THE BURIAL OF THOMAS JENNINGS

by Michael W. Spence

THE BURIAL

On June 1, 2008 a human cranium was found during ground surface alteration at a rural house lot near Mount Forest, Ontario (see Sherratt: this Kewa issue). The Supervising Coroner for West Region was informed and asked me to investigate the find. On June 3 I traveled to the area and, with the assistance of the OPP, conducted an examination of the scene (Spence 2008).

A graveshaft outline was exposed in the edge of the excavation cut. Also visible were two narrow vertical lines of black soil at the base of the outline, one with a corroded nail in it. These were the decayed remnants of the sides of a coffin. Immediately in front of the graveshaft outline, lying on the excavated surface, were the displaced cranium, mandible, hyoid bone, three highest cervical vertebrae, and two more corroded nails.

The evidence indicated that the excavation had just clipped the west edge of a nineteenth century coffin burial (Spence 2008). Fortunately the excavators realized that they had unearthed a human skull and stopped work there, so there was minimal damage to the burial. A cursory survey of the rest of the excavated area revealed no further graveshafts. Since it was now clear that the burial was of the historic period and so not of forensic concern, my work was finished and authority over the find passed to the Cemeteries Registrar. The site was sealed until a full investigation could be conducted, and the displaced bones were taken by the police.

On May 26, 2009 the burial was exhumed by James Sherratt of the Ontario Ministry of Culture. With the consent of the landowners and the appointed representative of the deceased, I analyzed the skeleton in June and then returned it for reburial.

There was no identification on the grave or the coffin. However, a history of the region (Harrison 1978:85) states that a small son of Francis Jennings, whose family occupied the property for two decades in the nineteenth century, died of "black diphtheria" and was buried there. Jim Sherratt's research (this issue) shows that the Canada Census for 1851 noted a son of Francis Jennings, named Thomas and five years of age, who lived with the family at that time. In the 1861 census he was not mentioned. These data indicate that the burial is that of Thomas Jennings, that he died of diphtheria between the ages of five and fifteen years, and that he was buried on the property.

The grave orientation was roughly west-east (actually, northwest-southeast), with the head end to the northwest. This follows the traditional Christian orientation. The body was extended on its back, the legs straight and the upper arms by the sides, flexed slightly at the elbows to place the hands on the hips. No traces of clothing were found.

Most of the skeleton was recovered. Some of the unfused epiphyses were not found, but these can be difficult to locate even if the grave soil is passed through a screen, as was the case here. No soft tissues have survived other than a small amount of desiccated brain material in the cranium.

IDENTIFICATION

The skeleton is of a subadult. There is no reliable morphological indicator of sex in the skeletons of children who died before puberty. In this case, however, I will accept the evidence of the written records and assume that the skeleton was a male, Thomas Jennings. The various age standards for subadults are often organized by sex, so in this case the male standards will be used.

There are three principal lines of evidence for subadult age determination: skeletal development, bone dimensions, and dental development. Skeletal development refers to the fusion of various elements and epiphyses in the progress toward the complete adult bone. In the case of Thomas, none of the long bone epiphyses had fused to the diaphyses. Other elements still unfused are the spheno-occipital (basilar) suture; the secondary epiphyses of the vertebrae; the second and third sternal segments; the ilium, ischium and pubis at the acetabulum; the ischium and pubis at the ramus; the iliac crest; the acromion epiphysis and coracoid process of the scapula; the distal epiphyses of metacarpals II-V and metatarsals II-V; and the proximal epiphyses of the hand and foot phalanges.

In the process of fusion are the costal elements of the seventh cervical vertebra and the proximal epiphyses of metacarpal I and metatarsal I. Elements with completed fusion include the segments of the composite proximal epiphysis of the humerus (which has not yet fused to the diaphysis); the partes laterales and the pars basilaris of the occipital; and the arches and bodies of the vertebrae.

The ages at which these developmental events take place show some variation, and it is not always clear whether this variation reflects individual factors (e.g. lifestyle, health), population differences, or both. Not surprisingly, there is no strong consensus on the ages of occurrence. However, following the ages assigned to these events by Scheuer and Black (2000) and Baker et al. (2005), the level of skeletal development observed in this skeleton suggests a minimal age of seven years and a maximum of about nine years. The exception to this is the proximal epiphysis of the first metacarpal, which is in the process of fusing. Fusion of this element is not thought to start before 12-15 years (Baker et al. 2005: Tables 10.4).

The metric dimensions of the long bones offer another approach to age determination. These, and the length of the ilium, are presented in Table 1. Left side elements were used except for the fibula; only the right fibula was intact enough for measurement. The most appropriate comparative data are those presented by Saunders et al. (1993: Table 1), from a large sample of subadults from a nineteenth century cemetery in Belleville, Ontario. The dimensions of Thomas' skeleton would, by these standards, place him in the 8-9 year cohort (Table 1), in general agreement with the evidence of skeletal development presented above.

Table 1: Skeletal Element Dimensions (mm).

Element	Length	Saunders et al. Age Cohort (yrs.)
humerus	236	8-9
ulna	185	8-9
radius	169	8-9
femur	321	8-9
tibia	265	8-9
fibula	255	----
ilium	110	9-11

Dental development and eruption data present a rather different picture. All of the teeth are permanent, although none of the third molars have erupted. The maxillary canines, second premolars and second molars are only half erupted. The mandibular teeth have erupted but the second molars have not quite reached the occlusal plane. This eruption pattern suggests an age of about 11.5-12.5 years (AlQatani et al. 2010).

Developmental stages were identified for several teeth (Table 2). These are evaluated here in terms of the mean or median ages presented in three studies: Moorrees et al. (1963), as refined by Smith (1991) and presented in Scheuer and Black (2000: Table 5.26); Trodden (1982: Table XIII); and AlQatani et al. (2010). Although the ages assigned to any particular tooth may vary considerably, in general they suggest that Thomas was probably between 11.5 and 13.5 years of age at death (Table 2).

The size and level of development of Thomas' skeleton suggest an age in the 7-9 year range. This estimate is contradicted by the dental development and eruption evidence, which point to an age in the 11.5-13.5 year range. Although both ranges are within the 5-15 year span indicated by the census data, this is still a considerable discrepancy. Its explanation may lie in Thomas' health history. Dental development is thought to be less variable and more under genetic control than skeletal development, which is more vulnerable to interruption by factors like disease and malnutrition (Ubelaker 1978:46; White 1991:310). In general, then, dental age indicators are considered to be more accurate and reliable than skeletal indicators. Thomas may thus have died at about 11-12 years of age. The apparent lag in his skeletal development raises the possibility that he suffered some chronic health problems during his short life.

HEALTH

Most health indicators do not point to severe health problems for Thomas. There is no evidence of antemortem trauma like healed fractures. Cribra orbitalia and porotic hyperostosis are not present, and there is no indication on the rib surfaces of any pulmonary infection. The teeth show no caries, abscesses or antemortem loss.

The mandibular canine tooth has two hypoplasia lines, at 6.17 and 3.33 mm above the cementum-enamel junction. These indicate episodes of health stress at, respectively, 3 and 4.5 years of age (Goodman and Rose 1990: Table 3). It is not known how severe these episodes were or what caused them, but the continued development of the tooth crown shows that Thomas had recovered from them.

Table 2: Dental Development (yrs.).

Tooth	Development	Scheuer & Black	Trodden	AlQahtani et al.
max. C	root complete	----	13.58	12.5
max. PM1	apex ½	----	----	13.5
max. PM2	apex ½	----	----	13.5-14.5
mand. C	apex ½	12.4	----	12.5
mand. PM1	root complete	11.2	13.24	12.5
mand. PM2	root complete	12.2	13.41	12.5
mand. M2	root ¾	11.4	11.96	12.5

An infection in the right mastoid process represents a significant health threat (Flohr and Schultz 2009). The inferior half of the process is gone, resorbed in the infection, and the remaining superior part has been hollowed. There is no evidence of reaction or sclerotic development, suggesting that the infection was still active when Thomas died. There is also considerable antemortem loss of the external table posterior to the process, cortical destruction with some dehiscences on the petrous portion of the temporal, and a large dehiscence in the right jugular fossa.

Mastoid infection is often a result of acute otitis media, an infection of the middle ear, and can be life-threatening without antibiotic treatment (Flohr and Schultz 2009). Thomas apparently had a severe case, active at the time of his death. It is conceivable that it was responsible to some degree for his delayed skeletal development, but probably some more long-term problem was also involved. It is also possible that he was simply small (but healthy) for his age, at the lower end of the range of normal variation for his age cohort. However, his lag was not just in linear growth; the fusion of several skeletal elements was also delayed.

Thomas is said to have died of diphtheria (Harrison 1978:85). Although immunization programmes and antibiotics have made diphtheria rare in Canada today, in the nineteenth century it was a common and frequently lethal disease. Malnourished people living in crowded and unclean environments were particularly at risk of infection, which was spread by coughing, sneezing, and contaminated objects and food. Even with modern medical treatment diphtheria has a 10% mortality rate. Without that treatment the rate rises to 40-50%. In Thomas' case the mastoid infection probably rendered him more vulnerable to the diphtheria and more prone to a fatal outcome. Also, his growth lag suggests some malnourishment, which would have increased his vulnerability.

CONCLUSIONS

Thomas was the son of Francis and Mary Jennings. The family may have lived first as squatters on the land that they purchased in 1854. However, they never farmed more than a small part of the property, and their farm appears not to have been a thriving enterprise.

Census records suggest that Thomas died sometime between 1851 and 1861, or between five and fifteen years of age. Dental development indicates that he was about 11-12 years old at the time of his death, which would place it about 1857-1858. His skeletal development was slow, suggesting malnourishment or some chronic health problem. These difficulties, and a severe mastoid infection, rendered him vulnerable to the diphtheria that finally claimed him.

In 2009 the skeleton of Thomas Jennings was reburied in Mount Forest Cemetery, in the plot that also holds the remains of his father and mother. The diphtheria that killed him is now rare in North America, thanks largely to immunization and a good health system (Shetty et al. 2009). There are no more than four cases a year in the United States. However, some 50,000 cases occurred in 1993-1994 in parts of the former Soviet Union, so continued vigilance is necessary.

ACKNOWLEDGEMENTS

I would like to thank the members of the Mount Forest detachment of the Ontario Provincial Police for their help in the case, particularly Detective Constable Sharon Fisher, Detective Sergeant Chris Knoll and Identification Constable Chantelle Beirnes. I am also grateful to Jim Sherratt and the Ontario Ministry of Culture for their help. The property owners, George and Agnes Strachan, encouraged and assisted with the exhumation and later permitted the analysis. Richard Challoner, a descendant of the Jennings family, very kindly took on the responsibility of acting on behalf of Thomas, seeing him gently into his final resting place.

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